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FOOD CRISIS PUT OFF

March 5 has come and gone, the Food Additives Amendment of 1958 is now in effect and food packaging is still in business.

Faced with the threat of Congressional action to postpone the effective date of the law, the Food & Drug Administration at the deadline retreated from its previous adamant stand and agreed that the law did give it sufficient flexibility to permit the continued use of virtually all food-packaging materials pending orderly review of a mountain of petitions and appeals.

Five days after the deadline, so far as could be discovered, not a single important packaging material had been specifically barred from continued use by any action or inaction of F&DA.

Administration officials specifically stated that they would make no move to seize food products on the market in packages containing uncleared chemicals (as the law empowers them to do) until they have caught up with their paper work – and even then, it appeared, not unless they are convinced of a positive threat to public health.

However, nobody seemed to know what would happen to *new* packaging materials and components, introduced since Jan. 1, 1958. Under the law, such materials cannot be used without specific clearance by F&DA – and no such clearance has been given, as of this writing, to any new material.

Otherwise, the food crisis was put off, for the time being, at least, by three types of F&DA action:

1. Reiteration of prior sanctions.
2. Listing of chemicals "generally recognized as safe."
3. Wholesale granting of extensions of time, officially or unofficially, for further testing – even applying to letters as yet unread and unanswered.

In some cases extensions for further testing were officially given, as the law provides, for a maximum of one year. The new element is the indeterminate and unofficial type of extension which results simply because F&DA is far behind with its mail. This kind of "extension" can be cut off by F&DA in any case at any moment. This leaves a number of important packaging materials under a dangling sword. Otherwise, the crisis has simply been postponed for a year.

The hope of Congress had been that in the 18 months between passage and the effective date of the law, all questions could be cleared up by petitions to F&DA giving data on the extent of migration of chemicals from packaging materials to foods, if any, and proof of toxicological safety. Actually, at the deadline less than 50 such petitions for clearance of packaging chemicals had been received and, of these, only eight had been officially accepted by F&DA "for consideration." None had been approved. About 40 were turned back as requiring additional data; presumably, they were given one-year extensions, although F&DA doesn't say.

Out of the confusion of deadline actions, these highlights emerged:

Paper and paperboard were in relatively good shape. F&DA accepted, almost in toto, a joint proposal from the National Paperboard Assn. and the American Pulp & Paper Assn. clearing 28 chemicals under prior sanctions and 67 "generally recognized as safe," while extending the use of 135 more pending further testing.

The status of polyethylene and other polymers remained in doubt. Instead of the complete clearance which they had confidently expected, polyethylene producers received only a one-year extension. Polypropylene, despite what was considered a model petition, has not yet been cleared.

Adhesives were granted an extended test period for 190 ingredients, although permission to continue use of 19 of the chemicals was made tentative pending a further breakdown of compounds.

Can linings were generally in the clear, through prior sanctions or test extensions, with further data now in preparation that may convert the latter from an "extended" status to "generally recognized as safe."

The first two categories of F&DA action give considerable assurance to packagers. "Sanction" means that F&DA had determined, on the basis of scientific data submitted before the new food law was passed, that a packaging material or chemical was safe or tolerable. "Generally recognized as safe" (now commonly shortened to GRAS in trade parlance) means that there is agreement among toxicology experts that the chemical in question could not migrate or, if it did, would not be dangerous.

The third category, extension of time for testing, offers no positive assurance for the future. Its implications range all the way from mere lack of data to unresolved physiological questions. Final deadline provided for clearing these questions is March 5, 1961.

Last-minute rulings clarified the status of waste fibres in paperboard. On the condition that wasteboard is produced under "good manufacturing practices" (i. e., that it contains no fibres or chemicals of unknown or possibly toxic character), it is permitted for contact with "dry, non-fatty" foods, such as dry cereals – a major use. In other food applications F&DA will, as predicted, require the use of a lining or coating between the food and the wasteboard.

One of the most important unanswered questions involves F&DA's concern with the low-molecular-weight hydrocarbons contained in some polymer plastics (notably polyethylene), mineral oil, paraffin and microcrystalline waxes. The latest question is not one of toxicity of these hydrocarbons as such, but their possible effect on the nutritional values of certain vitamins in the body. This stumbling block arose only at the last minute and the plastics industry, for one, is confident that it can be cleared away promptly and without interruption of the supply of materials important to the packaging industry, such as polyethylene.

Many packaging interests retain the hope of eventually easing the more-drastic provisions of the Federal law, particularly the controversial Delaney clause concerning suspected cancer agents. The clause, which F&DA says allows no tolerance whatever, has so far

hit direct food additives more seriously than the indirect type involved in packaging. It was responsible for the recent cranberry and stilbesterol actions. The food industry is agitating for a reasonable, safe tolerance. But this will require Congressional action and political observers point out that it is unlikely that any Congressman will "cast a vote for cancer," particularly in an election year.

All identifications of cleared or extended materials available from Government sources up to March 10 are given in the following tabulation, according to their present status. The listing is not represented as complete.

CHEMICALS ACTED UPON BY F&DA FOR USE IN FOOD PACKAGING

(as of March 10, 1960)

These listings were carefully compiled by MODERN PACKAGING from information supplied by the Food & Drug Administration, but MODERN PACKAGING cannot be responsible for any errors that may have occurred during the compilation

APPROVED BY PRIOR SANCTION

†Acetyl tributyl citrate
†Acetyl triethyl citrate
Aliphatic polyoxyethylene ethers
1-Alkyl (C_8-C_{18})-amino-3-aminopropane monoacetate
†Aluminum mono-, di- and tristearate
†Ammonium citrate
Ammonium potassium hydrogen phosphate
Borax or boric acid for use in adhesives, sizes and coatings
†Butadiene-styrene copolymer
*Butylated hydroxyanisole
*Butylated hydroxytoluene
p-tert Butylphenyl salicylate
Butylphthalyl butyl glycolate
Butyl stearate
†Calcium acetate
†Calcium carbonate
†Calcium glycerophosphate
Calcium hydrogen phosphate
Calcium oleate
Calcium phosphate
Calcium propionate
Calcium ricinoleate
Calcium stearate
Chinawood oil (tung oil)
Chromium complex of perfluoro-octane sulfonyl glycine for use on paper and paperboard which is waxed
Cobalt caprylate
Cobalt linoleate
Cobalt naphthenate
Cobalt tallate
Dehydrated castor oil
†Dibutyl sebacate
†Diethyl phthalate
Diisobutyl adipate
*Diisooctyl phthalate
*Dilauryl thiodipropionate
*†Dimethyl polysiloxane
Diphenyl-2-ethylhexyl phosphate
Disodium cyanodithioimidocarbamate with ethylenediamine and potassium N-methyl dithiocarbamate and/or sodium 2-mercaptobenzathiazole (slimicide)
†Disodium hydrogen phosphate
*Distearyl thiodipropionate
*†Epoxidized soybean oil
Ethyl acrylate and methyl methacrylate copolymers of itaconic acid or meth acrylic acid for use only on paper and paperboard which is waxed
*di-(2-Ethylhexyl) phthalate
†Ethyl phthalyl ethyl glycolate
†Glyceryl monooleate
*Gum guaiac
Hexamethylene tetramine as a setting agent for protein, including casein
1-(2-Hydroxyethyl)-1-(4-chlorobutyl)-2-alkyl (C_8-C_{17}) imidazolinium chloride
Iron caprylate
Iron linoleate
Iron naphthenate
Iron tallate
Itaconic acid (polymerized)
Linoleamide (linoleic acid amide)
†Linseed oil
†Magnesium glycerophosphate
Magnesium hydrogen phosphate
Magnesium phosphate
†Magnesium stearate
Manganese caprylate
Manganese linoleate
Manganese naphthenate
Manganese tallate
Melamine formaldehyde polymer
Methyl acrylate (polymerized)
Methyl ethers of mono-, di- and tripropylene glycol
Methylparaben (methyl p-hydroxybenzoate)
Mono-, di- and tripotassium citrate
Mono-, di- and trisodium citrate
Mono-, di- and tristearyl citrate
Monoisopropyl citrate
Myristo chromic chloride complex
†Nitrocellulose
*Nordihydroguairetic acid
Oleamide (oleic acid amide)
Palmitamide (palmitic acid amide)
†Polyethylene glycol 400, 1500 and 4000
†Polyvinyl acetate
Potassium oleate
Potassium pentachlorophenate as a slime-control agent
Potassium stearate
Potassium trichlorophenate as a slime-control agent
*Propyl gallate
Propylparaben (propyl p-hydroxybenzoate)
Pyrethrins in combination with piperonyl butoxide in outside plies of multiwall bags
Resins from high- and low-viscosity polyvinyl alcohol for fatty foods only
†Rubber hydrochloride
Sodium benzoate
Sodium pentachlorophenate as a slime-control agent
Sodium propionate
†Sodium pyrophosphate
Sodium stearate
†Sodium tetrapyrophosphate
Sodium trichlorophenate as a slime-control agent
*Sorbic acid
Stearamide (stearic acid amide)
Stearate-chromic chloride complex
†Tall oil
*Thiodipropionic acid
*†Tin stearate
†Titanium dioxide
Triacetin (glycerol triacetate)
†Triethyl citrate
*2, 4, 5-Trihydroxy butyrophenone
Urea formaldehyde polymer
Vinylidine chlorides (polymerized)
†3-(2-Xenoyl)-1, 2-epoxypropane
*Zinc orthophosphate
*Zinc resinate

'GENERALLY RECOGNIZED AS SAFE'

Acetic acid
Alum (double sulfate of aluminum and ammonium potassium or sodium)
Aluminum hydroxide
Aluminum oleate
Aluminum palmitate
†Ammonium chloride
Ammonium hydroxide
Butane
Calcium chloride
Calcium hydroxide (lime)
†Calcium sulfate
*Caprylic acid
Casein
†Cellulose acetate
Clay (kaolin)
Copper sulfate
Cornstarch
Corn sugar (sirup)
Dextrin
Diatomaceous earth filler
†Ethyl cellulose
Ethyl vanillin
Ferric sulfate
Ferrous sulfate
Formic acid or sodium salt
Glycerin
Guar gum
Invert sugar
Iron, reduced
Locust bean gum (carob bean gum)
Magnesium carbonate
†Magnesium chloride
Magnesium hydroxide
*†Magnesium steafate
Magnesium sulfate
Methyl and ethyl acrylate
Mono and diglycerides from glycerolysis of edible fats or oils
Nitrogen
†Oleic acid
Oxides of iron
Potassium sorbate
Propane
Propionic acid
†Propylene glycol
α-Protein
Pulps from wood, straw, bagasse or other natural sources
Silicon dioxides
Soap (sodium oleate, sodium palmitate)
Sodium aluminate
Sodium carbonate
Sodium chloride
Sodium hexametaphosphate
Sodium hydrasulfite
Sodium hydroxide

*Denotes certain limitations on use. Consult the Food & Drug Administration.

†This material appears in more than one category. Its status varies according to intended application. Check with F&DA.

Sodium phosphoaluminate
†Sodium silicate
Sodium sorbate
Sodium sulfate
°Sodium thiosulfate
Sodium triphosphate
†Sorbitol
Starch, acid modified
Starch, pregelatinized
Starch, unmodified
Sucrose
Sulfamic acid
Sulfuric acid
†Talc
†Urea
Vanillin
Zinc hydrosulfate
†Zinc sulfate

EXTENDED FOR FURTHER TESTING (INCLUDING TENTATIVE EXTENSIONS)

Acetone
†Acetyl tributyl citrate
†Acetyl triethyl citrate
Acrylic and methacrylic esters (aqueous emulsions of polymers)
Acrylic resins
°Adipic acid
Albumin, blood
Aliphatic hydrocarbon fractions of petroleum
Alkyd resins
Alkyl aryl polyether alcohols
Alkyl phenolethylene oxide condensates
Aluminum
Aluminum hydrate
†Aluminum mono-, di- and tristearate
Aluminum and potassium silicate (mica)
Aluminum silicate (china clay)
†Ammonium chloride
†Ammonium citrate
Ammonium persulfate
Ammonium potassium phosphate
Ammonium silicofluoride
Ammonium thiocyanate
Animal glue
Anionic polyacrylamide
Barium sulfate
°Beechnut oil
Bentonite
Bentonite, organic-base modified
Benzoguanamine
°Benzoic acid
Benzol
Benzyl alcohol
Bisphenol-epichlorohydrin
Bisphenol-epichlorohydrin combined with:
- Bisphenol-formaldehyde
- Diethylene triamine
- Melamine-formaldehyde
- Phenol-formaldehyde
- Urea formaldehyde

Bisphenol-epichlorohydrin (epoxy)
°Bisphenol-epichlorohydrin reacted with certain drying oils or fatty acids
Borated dextrin
Borax
Boric acid
bis (1, 4) Bromoacetoxy-2-butene
Burnt umber
Butadiene-acrylonitrile copolymer
Butadiene-acrylonitrile latex
Butadiene-acrylonitrile-styrene copolymer
†Butadiene-styrene copolymer
Butadiene-styrene latex
Butyl acetate
Butyl acetyl ricinoleate
Butyl benzyl phthalate
Butyl carbitol acetate
Butyl cellosolve
2-tert. Butyl phenyl salicylate
Butyl phthalyl butyl glycolate
Butyl rubber
Butyl stearate
†Calcium acetate
†Calcium carbonate
Calcium ethyl acetoacetate
†Calcium glycerophosphate
Calcium silicate
Calcium, sodium and potassium oleates
Calcium, sodium and potassium ricinoleates
Calcium, sodium and potassium stearates
†Calcium sulfate
Candelilla wax
°Candlenut oil
Carbitol
Carbitol acetate
°Carbon black
Carbon tetrachloride
Carboxymethylcellulose
Carnauba wax
Castor wax
°Castor oil (including dehydrated)
Cellosolve
Cellosolve acetate
Cellosolve ricinoleate
†Cellulose acetate
Cellulose acetate-butyrate
Cellulose acetate-propionate
Ceresin wax
Cetyl alcohol
°Charcoal
China clay
°Chinawood oil
Chlorinated biphenyl
2-Chloro-1, 3-butadiene (neoprene) (with acceptable stabilizer and/or antioxidant)
Coal resin (Utah)
Coconut alkylolamide
°Coconut oil
Coconut oil, sulfonated
Copal
Copper 8-quinolinolate
°Corn oil
Cottonseed fatty acid
°Cottonseed oil and other edible oils
Coumarene-indene resin
Cyclohexanol
Damar
Diacetone alcohol
°Dibutyl phthalate
†Dibutyl sebacate
Dicyandiamide
°Dicyclohexyl phthalate
Diethanolamine stearate
Diethyl oxalate
†Diethyl phthalate
Diethylene glycol
Diethylene glycol adipic acid polymer
Diethylene glycol dibenzoate
Diethylene glycol ester of resin
Diglycol laurate
Dihydroxy abietyl phthalate
Dihydroxydichlorodiphenyl methane
Dimethyl phthalate
†Dimethyl polysiloxane
Dimethyl polysiloxane polymer
Dioctyl phthalate
Dioctyl sebacate
Dioctyl sodium sulfosuccinate
Dioxane
Diphenyl phthalate
Dipropylene glycol dibenzoate
†Disodium hydrogen phosphate
Driers made by reaction of a metal from subdivision (1) with acid to form the salt listed in subdivision (2):
- (1) Metals:
  - Calcium
  - Cobalt
  - Iron
  - Magnesium
  - Manganese
  - Zinc
  - Zirconium
- (2) Salt:
  - Caprylate
  - Linoleate
  - Naphthenate
  - Octoate (2-ethylhexeate)
  - Oleate
  - Palmitate
  - Resinate
  - Ricinolate
  - Soyate
  - Stearate
  - Tallate

Elemi
°†Epoxidized soybean oil
Epoxy resins
Epsom salt
Ethyl acetate
Ethyl alcohol
†Ethyl cellulose
Ethylenediamine tetraacetic acid tetrasodium salt
Ethylene glycol
Ethylene oxide and polypropylene glycol condensates
2-Ethylhexyl diphenyl phosphate
di (2-Ethylhexyl) hexahydro phthalate
di-2-Ethyl hexyl phthalate
Ethyl hydroxy ethylcellulose
Ethyl lactate
†Ethyl phthalyl ethyl glycolate
Ethyl p-toluene sulfonamide
°Fatty acids derived from certain oils
°Fish oil (refined)
Formaldehyde and aromatic sulfonamides
Formic acid
°Fumaric acid
Gelatin
Gilsonite
Glue (animal)
Glycerin ester of hydrogenated rosin
°Glycerol
Glycerol ester of damar, copal, elemi and sandarac
Glyceryl monohydroxystearate
†Glyceryl monooleate
Glyceryl monostearate
Glyceryl triacetate
Glycol fatty ester polymer
Glyoxal
°Hempseed oil
Heptane
Hexadecanol
Hexane
Hexylene glycol
Hydroabietyl alcohol
Hydrofluosilicic acid
Hydrogenated fish oil
Hydrogenated ketone resin
Hydroxy propyl methylcellulose
Hydroxyacetic acid
Hydroxyethyl cellulose
β Hydroxyethyl pyridinium salt of 2-mercaptobenzothiazole
Hydroxyethyl starch
Iron oxides
di-Isoactyl phthalate
Isobutanol
di-Isobutyl adipate
°Isophthalic acid
Isopropanol
Isopropyl acetate
Isopropyl alcohol
mono-Isopropyl citrate
tetra-Isopropyl titanate
Kerosene, completely aliphatic
Kerosene oil
Kerosene oil, deodorized
Latex (natural)
Lauryl alcohol
Lauryl alcohol sulfate
Lauryl and myrstyl alcohols (sodium salts of sulfate monoesters)
Lecithin (edible grade)
Lignin sulfonate sodium salt
Linoleic acid amide
°†Linseed oil
†Magnesium chloride
†Magnesium glycerophosphate
Magnesium oxide
Magnesium, sodium and potassium citrates
Magnesium silicate (talc)
†Magnesium stearate
°Maleic acid
Maleic anhydride-vinyl condensates
°Mannitol
Marine oil fatty acid soaps (hydogenated)
Melamine
Methanol
Methyl acetate
Methyl acetyl ricinoleate
Methyl carbitol
Methyl cellosolve
Methylcellulose
Methyl ester of hydrogenated rosin
Methyl ethyl ketone
2, 2-Methylene-bis-4-ethyl-6-tert-butyl phenol
Methylene chloride
°α-Methyl glucoside
Methyl oleate
Methyl oleate-palmitate mixture
Methyl phthalyl ethyl glycolate
Methyl tallowate
°Mineral oil
Minyak
Mixture of the ketene dimers of palmitic and stearic acids

(Turn page)

°Denotes certain limitations on use. Consult the Food & Drug Administration.

†This material appears in more than one category. Its status varies according to intended application. Check with F&DA.

Modifiers (for oils and alkyds, including polyesters):
- Butyl methacrylate
- Cyclopentadiene
- Diallyl phthalate
- Methyl methacrylate
- Styrene
- Vinyl toluene

Mono-dibutyl amine pyrophosphate
Mono-, di- and tricalcium phosphate
Mono-, di- and trimagnesium phosphate
*Mono fatty acid ester
Monosulfonated naphthalene
Morpholine
Mustardseed oil, sulfated
Myristyl alcohol
Naphtha
Neoprene latex
†Nitrocellulose
*Oil paraffin
*Oils, reconstituted, from triglycerides or fatty acids derived from various oils to form esters of:
- Ethylene glycol
- Pentaerythritol
- Polyethylene glycol
- Polypropylene glycol
- Sorbitol
- Trimethylol ethane
- Trimethylol propane

*Oiticica
†Oleic acid
Oleic acid amide
Oleic acid, animal source
Oleic acid and polyethylene glycol
Oleic acid, sulfated
Oleic acid, vegetable source
*Orthophthalic acid
Oxazoline
Oxidized starch
Ozocerite wax
Palm oil
Palmitic acid amide
Parachloroethylene
Parachlorometacresol
Paraffin wax (synthetic halogenated)
Peanut oil, sulfated
*Pentaerythritol
Pentaerythritol ester of maleic anhydride
Pentaerythritol monostearate
*Pentaerythritol tetrastearate
*Perilla oil
Petrolatum
Petroleum hydrocarbon resins
Phenol
Phenol coumarone indene resins
Phenolic resins
Phenolic resins by reaction of formaldehyde with:
- Alkylated phenols (methyl, ethyl, propyl, isopropyl, butyl)
- Bisphenol
- Ortho-, meta- and paracresol
- Paracyclohexyl phenol
- Paranonyl phenol
- Paraoctyl phenol
- Paraphenyl phenol
- Paratertiary amylphenol
- Paratertiary butylphenol
- Phenol
- Xylenol

Phosphoric acid
a-Pinene resin
Polyacrylamides
Polyalkylated phenol monosulfide
Polyalkylene gylcol ether
Polyamide
Polyamide-epichlorohydrin resin
Polybutadiene
Polybutene
Polybutyl methacrylate
Polyethyl acrylate
Polyethyl methacrylate
Polyethylene (branched and linear)
Polyethylene (slightly oxidized)
†Polyethylene glycol 400, 1500 and 4000
Polyethylene glycol 600
Polyethylene glycol 600, monoricinoleate
Polyethylene glycol 400, dioleate
Polyethylene glycol 400, distearate
Polyethylene glycol 400, ditallate
Polyethylene glycol, ester of rosin (15.M)
Polyethylene glycol, ester of rosin octylphenol
Polyethylene glycol 400, monococoate
Polyethylene glycol 400, monolaurate
Polyethylene glycol 400, monooleate
Polyethylene glycol 200, monooleate
Polyethylene glycol 600, monooleate
Polyethylene glycol 200, monostearate
Polyethylene glycol 400, monostearate
Polyethylene glycol 450, monostearate
Polyethylene glycol 200, monotallate
Polyethylene glycol 400, monotallate
Polyethylene glycol 400, tallow diester and glycerides
Polyglycol ether of tridecyl alcohol
*Polyisobutylene
Polylactyl
*Polymers of pimaric acid, abietic acids and/or rosin constituents
Polymethyl acrylate
Polymethyl methacrylate
Polymethyl styrene
Polypropylene
Polyoxyethylated castor oil
Polyoxyethylated oleyl alcohol
Polyoxyethylene (4-phenol)
Polyexyethylene oleate
Polyoxyethylene sorbitan monolaurate
*Polyoxyethylene (20) sorbitan monooleate
Polyoxyethylene sorbitan monopalmitate
Polyoxyethylene sorbitan monostearate
Polyoxyethylene (40) stearate
Polystyrene
Polytetraflouroethylene
†Polyvinyl acetate
Polyvinyl acetate emulsions
Polyvinyl acetate resin
*Polyvinyl alcohol
Polyvinyl butyral
Polyvinyl chloride
Polyvinyl formol
Polyvinyl methyl ether
Polyvinyl pycrolidene
Polyvinyl stearate
*Poppyseed oil
Propylene carbonate
*†Propylene glycol
Propylene glycol monococate
Polyvinylidene chloride
a-Protein soyabean
*Pumpkinseed oil
Raw sienna
Resin esters modified by reaction with:
- Maleic anhydride
- *Ortho-, meta- and para-substituted phenol-formaldehyde
- Phenol-formaldehyde
- Calcium resinate (limed rosin)
- Zinc resinate

Rice bran oil
Rice bran oil, sulfated
Ricinoleate (butyl)
Ricinoleate (methyl)
Rosin (decarboxylated)
Rosin derivative (dymerex)
Rosin glycerol ester, polymerized
Rosin, gasoline-insoluble fraction
Rosin gum emulsion
Rosin, hydrogenated wood, glycerin ester
*Rosin-maleic acid adduct (petrex acid)
Rosin methylester
Rosin modified with ammonium caseinate
Rosin, pentaerythritol esters
*Rosins and rosin acids
Rosins; wood, gum and tall oil, and the dimers thereof, and these substances as modified by the following reactants:
- Bisphenol-formaldehyde
- Ethylene glycol
- Formaldehyde
- Fumaric acid
- Glycerin
- Hydrogen
- Maleic anhydride
- Methanol
- Pentaerythritol (double crystallized)
- Phthalic anhydride
- Sulfuric acid
- Triethylene glycol

Rubber, butyl
Rubber, chlorinated
†Rubber hydrochloride
*Safflower oil
Sandarac
*Sebacic acid
*Sesame oil
Shellac
Silica (also colloidal)
*Silicones
Sodium alkyl amyl sulfonate
Sodium carboxymethylcellulose
Sodium decylsulfate
Sodium dioctyl sulfosuccinate
Sodium dodecylbenzene sulfonate
Sodium 2-ethylhexyl sulfate
Sodium formate
Sodium lauryl sulfate
Sodium ligninsulfonate (sodium lignosulfonate)
Sodium metaborate
Sodium nitrate
Sodium nitrite
Sodium perborate
Sodium o-phenylphenate
Sodium polyacrylate
†Sodium pyrophosphate
Sodium salt of naphthalene sulfonic acid condensed with formaldehyde
Sodium salts of dimethyl dithiocarbamic acid and 2-mercaptobenzothiazole
†Sodium silicate
Sodium stearate, technical grade
Sodium tetradecylsulfate
†Sodium tetrapyrophosphate
Sorbitan monooleate
Sorbitan monopalmitate
Sorbitan monostearate
Sorbitan tristearate
*†Sorbitol
*Soybean oil
Stearate chromic chloride
Stearic acid
Stearic acid amide
Stearic acid, double pressed
Stearic acid, rubber grade
Stearic acid, single pressed
Stearic palmitic acids, 63:29
Stearyl alcohol, technical grade, approximately 65%-80% stearyl and 20%-35% cetyl
Styrene-acrylonitrile copolymer
Styrene condensates
Styrene-isobutylene copolymer
*Sunflower oil
Sulfonated castor oil
†Talc
*†Tall oil
Tall oil fatty acid, methyl ester
Tall oil, refined
Tall-oil soaps
*Tallow
Tallow, alcohol, hydrogenated
Tallow, blown (oxidized)
*Tallow fatty acids
Tallow, monoglyceride
Tallow, propylene glycol ester
Tallow, sodium soap
*Tallow, sulfated
*Tartrazine lake
*Terephthalic acid
Terpene
Terpene resins
Terphenyl
*Tertiary butyl benzoic acid
*Tetraethylene pentamine
†Tin stearate
*†Titanium dioxide
*Titanium dioxide-barium sulfate
*Titanium dioxide-calcium sulfate
*Titanium dioxide-magnesium silicate
o- and p-Toluene ethyl sulfonamide
Toluol
Tributyl citrate
Tributyl phosphate
Trichloroethylene
*Triethanolamine
†Triethyl citrate
Triethylene glycol polyester of phthalic anhydride (modified)
Triisopropanolamine
*Trimellitic acid
*Trimethylol ethane
*Trimethylol propane
mono-, di and Tristearyl citrate
†Urea
Urea formaldehyde
Urea-formaldehyde resins
Vinyl acetate dibutyl maleate copolymer
Vinyl chloride-acetate-copolymer
Vinyl chloride-acetate, hydroxyl modified copolymer
Vinyl chloride-acetate, maleic acid modified-copolymer
Vinyl chloride-acrylonitrile-copolymer
Vinyl chloride-maleic ester-copolymer
Vinyl chloride-vinylidene chloride-copolymer
*Walnut oil
*Waxes, microcrystalline and paraffin:
- Montan
- Polyethylene
- Sperm oil
- Spermaceti

†3(2-Xenoxyl)-1, 2-epoxypropane
Xylol
Zinc dimethyldithiocarbamate in combination with zinc salt of 2-mercaptobenzothiazole
Zinc oxide
Zinc stearate
†Zinc sulfate

*Denotes certain limitations on use. Consult the Food & Drug Administration.

†This material appears in more than one category. Its status varies according to intended application. Check with F&DA.